IN THE CLAIMS

1. (Previously presented) A method of operating a network access server, the method comprising:

using a first processor in the network access server to perform a routing table lookup for a received packet;

determining, from the results of the routing table lookup, a routing table identifier and a second processor responsible for processing and forwarding the received packet, the second processor selected from a plurality of forwarding processors in the network access server;

passing the identifier and the received packet to the second processor; and

the second processor retrieving routing information for the received packet from a routing table, using the identifier to determine the location of the routing information in the routing table.

2. (Original) The method of claim 1, wherein passing the identifier and the received packet to the second processor comprises

the first processor prepending an intraserver header to the received packet, the header containing the routing table identifier;

sending the received packet to the second processor;

the second processor reading the identifier from the intraserver header; and

the second processor removing the intraserver header from the received packet.

3. (Original) The method of claim 1, further comprising

maintaining a master routing table at a route switch controller within the network access server;

maintaining a distributing routing table at the first processor, the distributing routing table containing entries from the master routing table that allow determination of the appropriate routing table identifier and the appropriate second processor for the received packet; and

maintaining a forwarding routing table at each forwarding processor, the forwarding routing table for a particular forwarding processor keyed to the routing table identifiers known to the first processor and containing entries from the master

routing table that allow that forwarding processor to process packets for network access sessions assigned to that processor.

4. (Original) The method of claim 3, wherein maintaining a distributing or forwarding routing table comprises the route switch controller sending routing table updates to the processor associated with that routing table, and that processor updating that routing table.

5. (Original) The method of claim 1, further comprising the first processor sub-classifying the received packet according to layer three or higher headers attached to the packet, wherein the routing table identifier is only sent to the second processor for certain subclasses of received packets.

6. (Original) The method of claim 5, further comprising passing an indication of packet subclass to the second processor.

7. (Previously presented) The method of claim 1, further comprising the first processor passing a processing indication to the second processor, the processing indication informing the second processor as to what processing remains to be done on the packet is stored in an intraserver header.

8. (Original) The method of claim 1, wherein the routing table identifier indicates the ingress port that the second processor should route the data in the received packet to.

9. (Original) A data network access concentrator comprising:

multiple ingress ports, each ingress port having the capability to support data communication over one or more access sessions associated with that port;

at least one egress port to facilitate packet data communication with a data network;

a plurality of forwarding engines to process data packets received by the access concentrator and forward processed packets toward an appropriate ingress or egress port, each forwarding engine having the capability to support data communication over a plurality of ingress port access sessions; and

a distribution engine to perform routing searches for data packets received at the egress port and to distribute each such packet, along with the results of the routing search, to the forwarding engine supporting data communication for the ingress port access session associated with that packet.

10. (Original) The access server of claim 9, further comprising a route switch controller to manage access sessions associated with the ingress ports.

11. (Original) The access server of claim 10, the route switch controller having the capability to maintain a data packet master routing table and provide routing table updates from the master routing table to the forwarding engines and the distribution engine.

12. (Original) The access server of claim 10, the route switch controller comprising a default forwarding engine, each of the other forwarding engines and the distribution engine having the capability to send a data packet to the default forwarding engine when the appropriate route for that data packet is unknown to the forwarding or distribution engine attempting to route that data packet.

13. (Original) The access server of claim 9, the distribution engine having the capability to distribute data packets, tunneled packets for a tunnel session terminated at the access server, and voice packets for a packet voice session terminated at the access server, the distribution engine comprising a classifier to determine, from a data packet's header data, whether that data packet can be classified as a tunneled packet or a voice packet.

14. (Original) A data network access concentrator comprising:

data packet communication means for interfacing with a packet data network;

multiple network access means for communicating data associated with a plurality of network access sessions across an access network;

multiple forwarding means for processing data packets and then forwarding those data packets toward either the data packet communication means, for ingress packets, or toward one of the network access means, for egress packets, each forwarding means associable with multiple network access sessions and at least one

network access means and performing data packet processing and forwarding related to those associations; and

distributing means for performing a routing search for a data packet received from the packet data network, and for distributing that data packet, along with a result of the routing search, to the forwarding means responsible for processing that packet.

15. (Previously presented) An apparatus comprising a computer-readable medium containing computer instructions that, when executed, cause multiple processors to perform a method for processing data packets in a network concentrator, the method comprising, for a received packet:

using a first processor in the network access server to perform a routing table lookup for a received packet;

determining, from the results of the routing table lookup, a routing table identifier and a second processor responsible for processing and forwarding the received packet, the second processor selected from a plurality of forwarding processors in the network access server;

passing the identifier and the received packet to the second processor; and

the second processor retrieving routing information for the received packet from a routing table, using the identifier to determine the location of the routing information in the routing table.

16. (Original) The apparatus of claim 15, wherein passing the identifier and the received packet to the second processor comprises:

the first processor prepending an intraserver header to the received packet, the header containing the routing table identifier;

sending the received packet to the second processor;

the second processor reading the identifier from the intraserver header to determine the location of the routing information in the routing table; and

the second processor removing the intraserver header from the received packet.

17. (Original) The apparatus of claim 15, wherein the method further comprises: maintaining a master routing table at a route switch controller within the network access server;

maintaining a distributing routing table at the first processor, the distributing routing table containing entries from the master routing table that allow determination of the appropriate routing table identifier and the appropriate second processor for the received packet; and

maintaining a forwarding routing table at each forwarding processor, the forwarding routing table for a particular forwarding processor keyed to the routing table identifiers known to the first processor and containing entries from the master routing table that allow that forwarding processor to process packets for network access sessions assigned to that processor.

18. (Original) The apparatus of claim 17, wherein maintaining a distributing or forwarding routing table comprises the route switch controller sending routing table updates to the processor associated with that routing table, and that processor updating that routing table.

19. (Original) The apparatus of claim 15, wherein the method further comprises the first processor sub-classifying the received packet according to layer three or higher headers attached to the packet, and wherein the routing table identifier is only sent to the second processor for certain subclasses of received packets.

20. (Original) The apparatus of claim 19, wherein the method further comprises passing an indication of packet subclass to the second processor.

21. (Previously presented) The apparatus of claim 15, wherein the method further comprises the first processor passing a processing indication to the second processor, the processing indication informing the second processor as to what processing remains to be done on the packet is stored in an intraserver header.

22. (Original) The apparatus of claim 15, wherein the routing table identifier indicates the ingress port that the second processor should route the data in the received packet to.